



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,564	12/21/2001	David W. Beddome	90099010	7106
7590	05/24/2004		EXAMINER DUONG, THO V	
Ephraim Starr Honeywell International Inc. Garrett Engine Boosting Systems 23326 Hawthorne Boulevard, Suite 200 Torrance, CA 90505			ART UNIT 3743	PAPER NUMBER

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/037,564	Applicant(s) BEDDOME ET AL.	
	Examiner Tho v Duong	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 3-6,9,10,12-31,33-36,39-41,43-48,50,51,54 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,11,32,37,38,42,49,52,53,57 and 59 is/are rejected.
- 7) ☒ Claim(s) 56 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A receipt of applicant's amendment filed 2/23/2004 is acknowledged. Claims 1-59 are now pending. Claims 3-6,9-10,12-31,33-36,39-41,43-48,50-51 and 54-55 still remain withdrawn from further consideration. Claim 42 has been reinstated into the group of claim for further examination due to an inadvertently withdrawn of the claim.

The indicated allowability of claims 38 and 53 are withdrawn in view of the newly discovered reference(s) to Grotness et al. (US 4,134,306), Altoz et al. (US 3,957,107), Gorbell and La Haye et al. (US 4,134,449). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2,7-8,11 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Altoz et al. (US 3,957,107). Altoz et al. discloses (figures 1-2) a heat exchanger comprising a core (16) having a variable length; a support structure (11,12,13,14), wherein the core (16) is received by the support structure; the support structure comprises a fixed member (12) and an attached fluid-biased, deformable member (15,17,18) for accommodating variation in the length

Art Unit: 3743

of the core while applying a bias force to the core. Altoz et al. further discloses that the deformable is a bellows comprising two plates (17,18) with an expandable wall (15) mounted between the plates and wherein the bellows is wider than the core.

Claims 1,2,7-8,11,32,37,42,49,52 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by La Haye et al. (US 4,134,449). La Haye discloses (figure 1 and column 1, lines 47-55) a heat exchanger comprising a core (13,13') having variable length within a first end and a second end; and a support structure (11) connected to the core, wherein the core is received by the support structure. The support structure comprising a fixed member and a fluid biased deformable member such as bellows (10) wherein the fixed member comprises a first section (27) and a second section (44) being positioned about the core; the first section (27) abuts the first end of the core and the bellows (10) is mounted between the core and the second end (44) of the fixed member. La Haye further discloses (figure 1) that the bellows section comprising two plates (81,90) and an expandable side wall (80) mounted between the first and the second plates. The elements (81,90) are considered to be readable as plates since they have a thin planar portion being part of the bellows for mounting the bellows to other structure of the heat exchanger.

Claims 1,2,7-8,11,32,37,38,49,52 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Grotness et al. (US 4,134,306). Grotness discloses (figure 1) an apparatus comprising a core (128) having variable length within a first end and a second end; and a support structure (130) connected to the core, wherein the core is received by the support structure. The support structure comprising a fixed member and a fluid biased deformable member such as fluid-bias bellows (46) wherein the fixed member comprises a first section (14) and a second section (12) being positioned about the core; the first section (14) abuts the first end of the core

Art Unit: 3743

and the bellows (46), which is wider than the core, is mounted between the core and the second end (12) of the fixed member, so that the bellow is deformed as the length of the core varies.

The recitation that “a heat exchanger” has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kroba V. Robie*, 88 USPQ 478 (CCPA 1951).

Claims 1,2,7-8,11,32,37,42,49,52 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Gorbell et al. (US 6,703,154). Gorbell discloses (figures 1 and 3) a heat exchanger comprising a core (10) having variable length within a first end and a second end; and a support structure (12,14) connected to the core, wherein the core is received by the support structure. The support structure comprising a fixed member and a fluid biased deformable member such as bellows (18) wherein the fixed member comprises a first section (12) and a second section (14) being positioned about the core; the first section (12) abuts the first end of the core and the bellows (18) is mounted between the core and the second end (14) of the fixed member. Gorbell further discloses (figure 1) that the bellows section comprising two plates (30,32) and an expandable side wall (34) mounted between the first and the second plates.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2,7-8,11,32,37,49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Shinobu (JP 408029077A) in view of La Haye (US 4,134,449).

Matsuo discloses (figure 1) a heat exchanger comprising a core (1,4) having a variable length; a support structure (5,20,21), wherein the core is received by the support structure, wherein the support structure comprises a fixed member (5,20) and an attached biased deformable member (21) such as a bellows for accommodating variation in the length of the core while applying a biasing force to the core; the core (1,4) comprises a first end (4a) and a second end (4b), wherein the variable length of the core is set between the first end (4a) and the second end (b); the fixed member (5,20) comprises a first end section (5) and a second end section (20), wherein the first end and the second end sections (5,20) are positioned about the core, wherein the first end section (5) abuts the first end (4a) of the core and wherein the bellow (21) is mounted between the second end core (4b) and the second end (5) of the fixed member, so that bellow is deformed as the length of the core varies. Matsuo Shinobu does not disclose that the bellows is fluid biased deformable member. Matsuo further discloses (paragraph 20) that the bellow (21) is biased by a coil spring or other material as long as it absorbs spacing fluctuation. La Haye discloses a heat exchanger that has a compressed gas bellow (10) disposed between a core (13) and a fixed end of a support (11) for accommodating variation of the length of the core accordingly to the internal gas pressure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use La Haye's teaching in Matsuo's heat exchanger for accommodating variation of the length of the core accordingly to the internal gas pressure.

Art Unit: 3743

Allowable Subject Matter

Claims 56 and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fujikake et al. (US 3,893,505) discloses rotary regenerative heat exchangers comprising bellows and plates.

Germerdonk et al. (US 4,152,399) discloses a shell type heat exchanger that has bellows disposed between a core and a fixed end.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

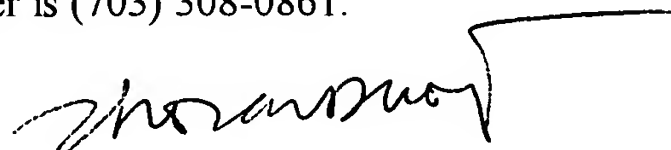
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

TD

TD

May 15, 2004



Tho Duong

Patent Examiner.